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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,426	12/18/2001	Ju Chun Yeo	8733.569.00	6363

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WASHINGTON, DC 20006

EXAMINER
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SAID, MANSOUR M

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/017,426

Applicant(s)

YEO ET AL.

Examiner

MANSOUR M. SAID

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 4-24 and 27-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25 and 26 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/29/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Election/Restrictions**

1. Applicant's election without traverse of claim 1-3 and 25-26 in the reply filed on September 22, 2005 is acknowledged.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-3 and 25-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikawa (6,683,669 B1).**

As to claim 1, Fujikawa teaches a liquid crystal display device (column 1, lines 5-11 and column 4, lines 58-67) having an interconnection line part (connection wires, (figures 1, 3, 5 & 7, (7))) for applying a signal from a driving circuit to a liquid crystal display (column 4, lines 58-67 and column 7, lines 5-30) comprising: a substrate (figure 2, (1)), (column 7, lines 10-20 and column 13, lines 23-37); and a plurality of interconnection lines on the substrate (figures 1, 3, 5 & 7, (7)), wherein width of the

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interconnection lines at a center portion and at outer portion (as clearly shows in figures 1, 3, 5 & 7, the width of the interconnection lines (connection wires) at a center portion and at an outer portion have the same width, and in figures 111-12 the width of the outer portion is greater than the width of the center portion) (column 4, lines 9-67, column 5, lines 1-67, and column 22, lines 14-23).

Fujikawa does not expressly teach that the interconnection lines at a center portion of the interconnection line part are greater than an outer portion.

However, it is a design choice that having the width of the center portion larger than the width of the output portion. In re Rose, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one ordinary skill in the art to have different structure of the interconnection lines (connection wires), so as to made the resistance of the connection wires uniform (column 5, lines 15-30).

**As to claim 3**, Fujikawa teaches all claimed limitations, such as, different size structure of the interconnection lines ((column 4, lines 9-67, column 5, lines 1-67, and column 22, lines 14-23), but he omits that the interconnection lines are thickly formed in only the first and second straight-line parts.

However, it is a design choice that having different size of the interconnection lines. In re Rose, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one ordinary skill in the art to have different structure of the interconnection lines (connection wires), so as to made the resistance of the connection wires uniform (column 5, lines 15-30).

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5. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikawa in view of (Yamamoto et al. (2002/0030648 A1).**

As to claim 2, wherein each respective interconnection line includes a straight-line part to which connected to gate lines or data lines of an LCD panel (column 21, lines 43-53; and a slanted part for connecting the straight-line part with the second straight-line part with the second straight line part (figures 1, 3, 5 & 7).

Fujikawa does not expressly disclose that the interconnection line includes a straight-line to which the driving IC is connected.

However, Yamamoto teaches the interconnection line includes a straight-line (figure 11, (112a) to which the driving IC (IC device, (figure 11, (67)) is connected (column 4, paragraph 0056).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate Yamamoto's liquid crystal device having an interconnection wire connected to IC so as to have a panel of a peripheral circuit and a liquid crystal display part integrally formed on a base, so that to increase the versatility of the display.

***Allowable Subject Matter***

6. **Claims 25-26 are allowed.**

7. The following is an examiner's statement of reasons for allowance: "forming a plurality of data lines and data interconnection lines, the data lines connected to the source and drain regions and formed substantially perpendicular to the gate lines, so that first width of the data interconnection lines at in-a center portion of the data

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interconnection line part is greater than a second width of the data interconnection lines at ((in)) an outer portion of the data interconnection line part and a capacitance of the data interconnection lines with the second active layer is gradually increased towards the center portion from the outer portion”

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mizuno et al. (6,522,378 B1) teaches a liquid crystal display and an electrode width of intermediate connection wiring.

Kawaguchi (6,052,171) teaches an LCD with electrically connected integrated circuit and opposite voltage line between input and output wiring.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mansour M. Said

whose telephone number is 571-272-7679. The examiner can normally be reached on Monday through Friday from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

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or faxed to:

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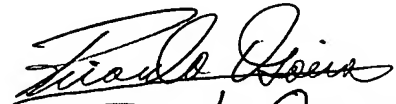
571-273-8300 (for Technology Center 2600 only)

Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Mansour M. Said**

11/9/05

  
Ricardo Osorio  
PRIMARY EXAMINER